ATV-25
Pair Identification

Optimizing Field Testing and Records Integrity

Pair Identification Options

The ATV-25 provides features useful in automatic and manual pair identification.

- ID Tone Generator
- Automatic Tone Search
- Automatic Pair Tagging (Identifier)
- Automatic End-to-End Test
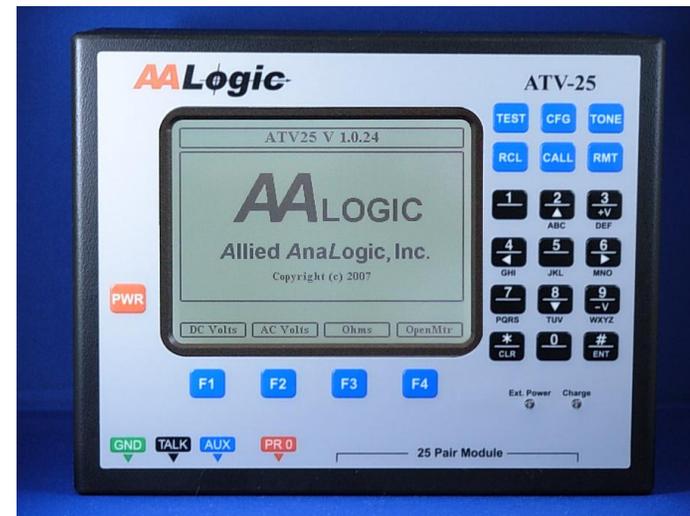
ID Tone

- ID Tone is compatible with standard tone probes in use in the field.
- Dual frequency capability and multiple modes are provided to meet most applications.
- The table below shows the frequency and mode options available.
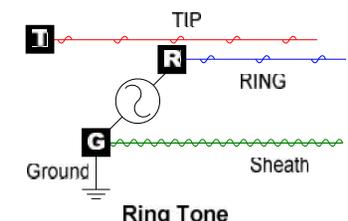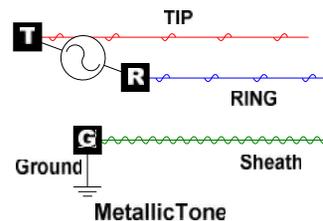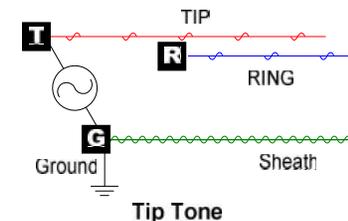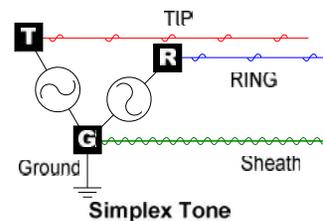

ID Tone Modes

| Mode	577 Hz	1004 Hz
Simplex	✓	X
Metallic	✓	✓
Tip to Ground	✓	✓
Ring to Ground	✓	✓

Automatic Tone Search

- Automates the process of tone probing for a pair
- More accurate than using an inductive probe
- Searches 25 pair
- Works with standard tone probes
- 577 Hz and 1004 Hz tone supported
- Searches for metallic or simplex tone
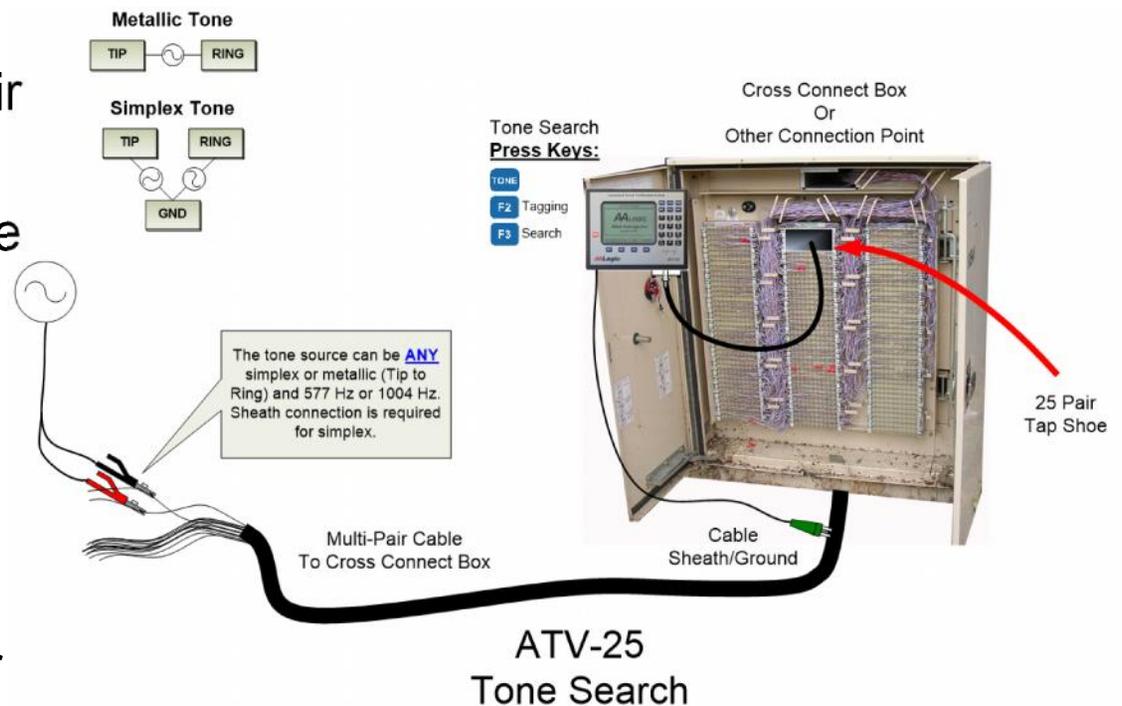
Automatic Tone Search

- The Tone Search result screen shows a matrix of the 25 pairs. Pairs with tone that meets the internal threshold have black backgrounds.

- The display indicates the frequency, mode and the identified pair, 14 in this case.
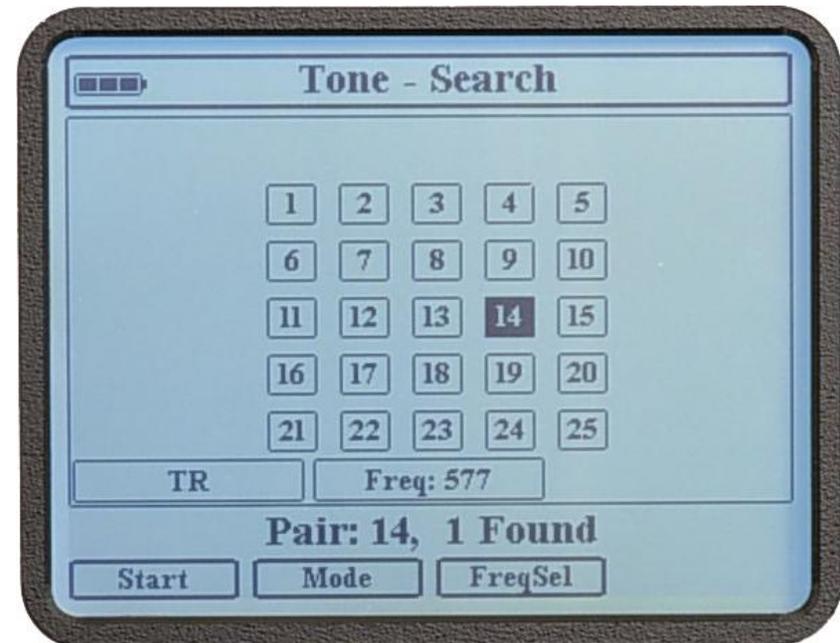
Automatic Pair Identification

- Matches AC and DC parameters for the pair at the local and remote locations
- Multiple remote units may be used to increase the capability to 50, 74, or 100 pair
- Pairs are typically identified within 6 seconds

Local Mode
Press Keys:
- TONE
- F2 Tagging
- F1 Local

Remote Mode
Press Keys:
- TONE Tagging
- -2 Tagging
- -2 Remote

Cross Connect Box
Or
Other Connection Point

25 Pair
Tap Shoe

Communication
Pair

AUX
Cord

AUX
Cord

Pair 0
Cord

Multi-Pair Cable
To Cross Connect Box

Cable
Sheath/Ground

Ground
Cord

Cable
Sheath/Ground

ATV-25
Cable Pair Tagging
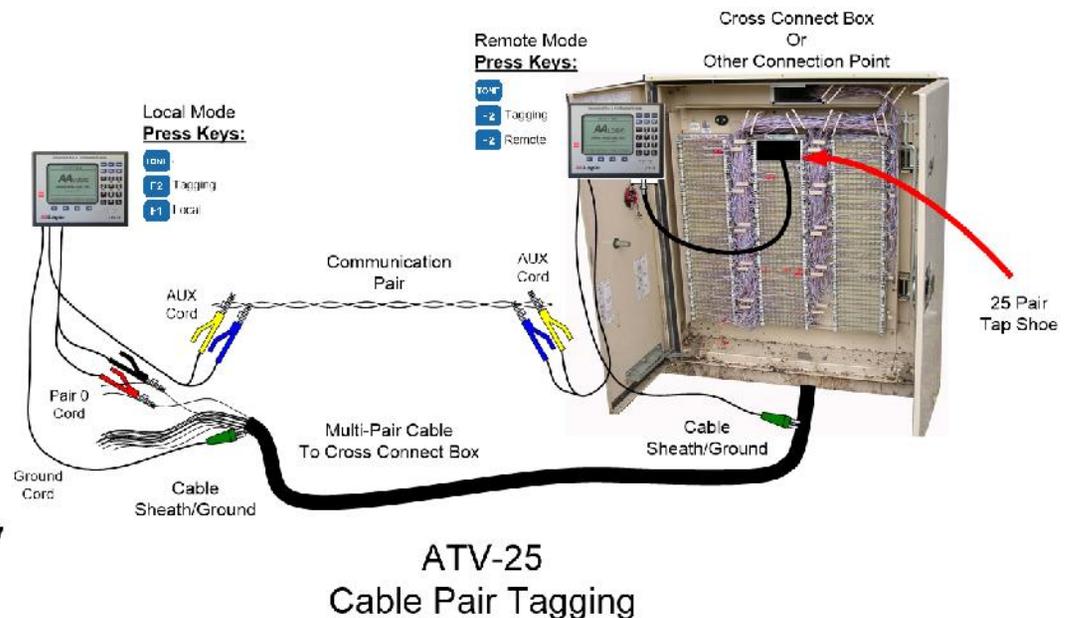
End-toEnd Pair Confirmation

- Verifies Tip and Ring continuity between the local and remote locations
- Reports opens and reversals
- Tests working and vacant pairs
- Measures Tip-Ring and Tip to ground resistance values on vacant pairs
- Results are stored electronically for uploading to a PC.
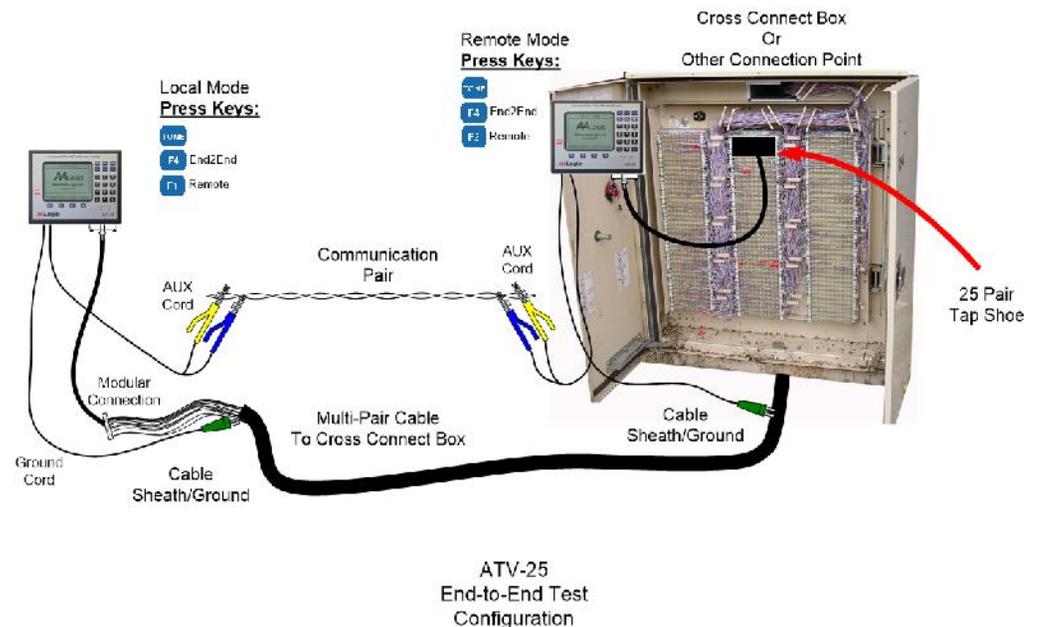
Optimizing Effort

- **Identification of Service**
  - Voltage Checks
    - DC Voltages
    - AC Voltages
      - Special Circuits
      - Noise
  - Resistance Checks
    - Shorts
    - Grounds
  - Open checks
    - Pair Length
    - Balance
    - Bridge Tap
  - Assigned Number Retrieval
- **Additional Tests**
  - Loop Current
  - Load Coils
  - mW Reference
  - Quiet Termination
  - Spectral Plot

- **Pair Identification**
  - Tone Generator
  - Continuity Checks
- **Record Updates**
- **Preventive Maintenance**

Optimizing Test Time

- **Multiple Pair Access**
  - ☐ Connect 25 pair at a time.
- **Identification of Service**
- **Point of Reference for Cable and Pair**
  - ☐ Tone Generation
  - ☐ Tone Search
  - ☐ Pair Tagging
- **Electronic Storage of Test Information**
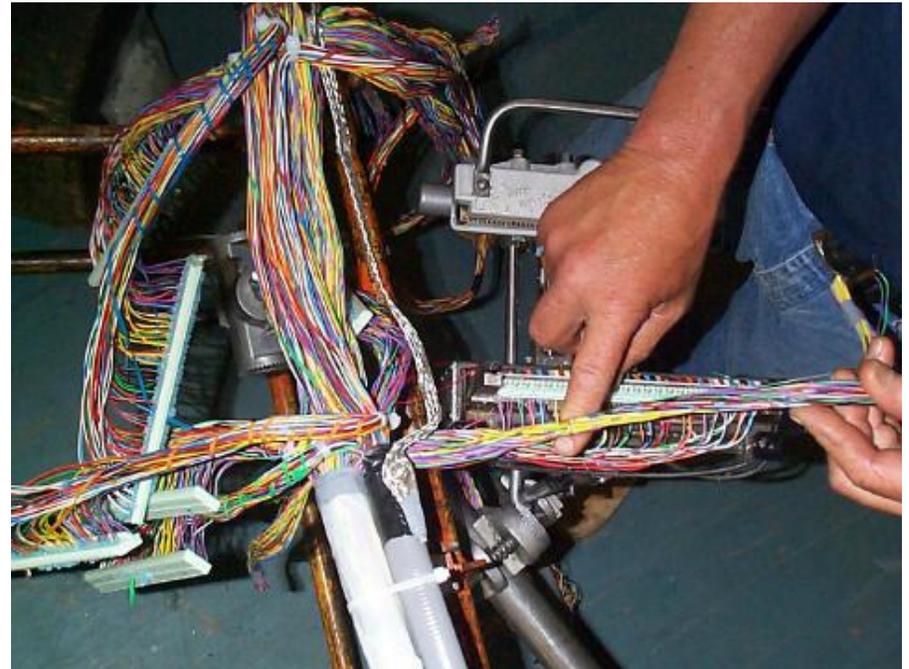
Tap Shoes
Cinch Connector

Tap Shoes
3M 4320
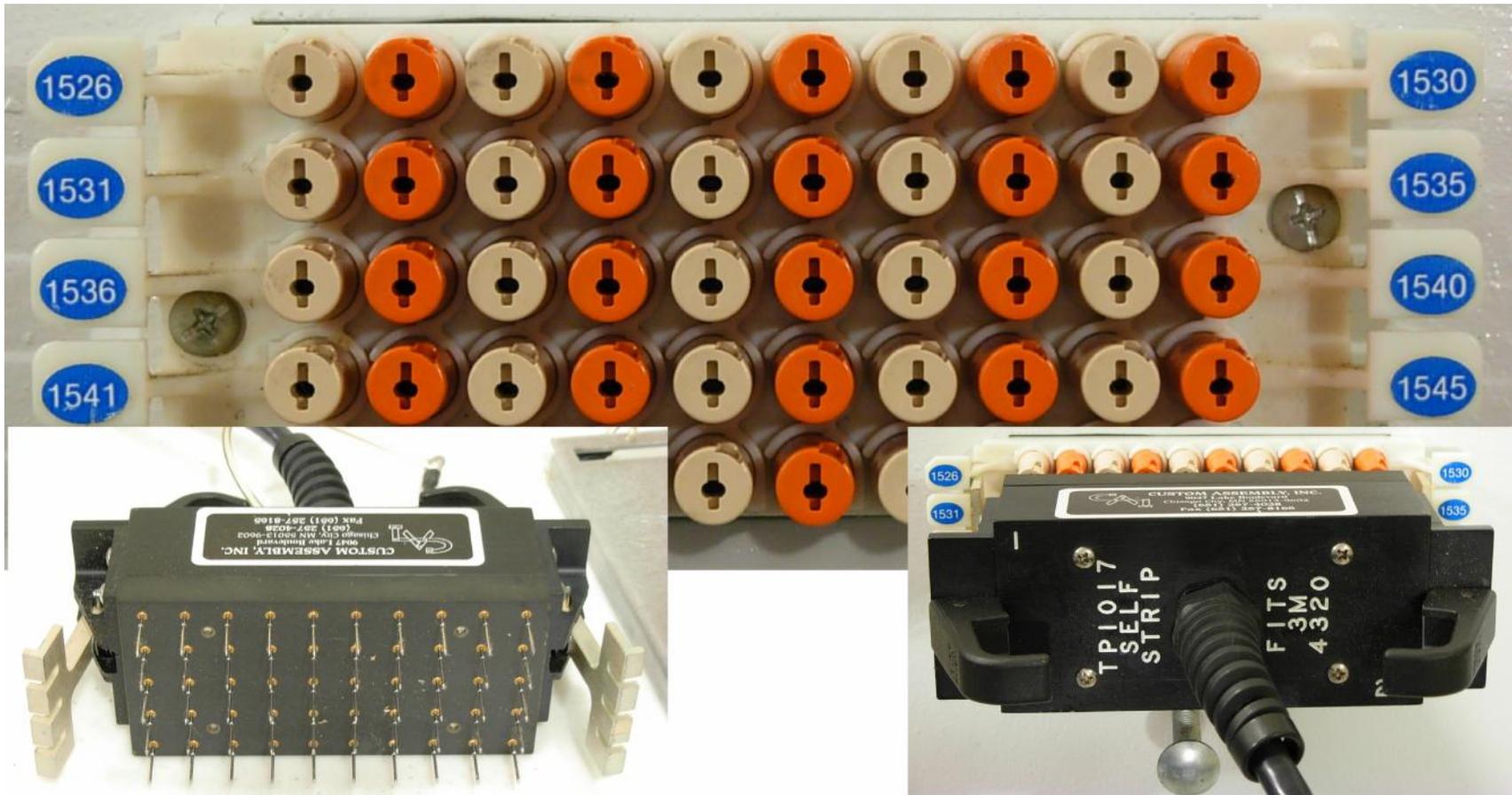
Efficiency – Working Pair Test

Work Period	4	Hours	
Time to move shoe	5	Minutes	
Working Pair Test	1.70	Minutes	Per 25 Pairs
	DC Volts		
	Resistive Faults		
	Open Tests		
	Vacant Noise		
	Loop Current		
	Record all measurements		
Total Pairs Tested	875		

Efficiency – Vacant Pair Test

Work Period	4	Hours	
Time to move shoe	5	Minutes	
Vacant Pair Test	2.2	Minutes	Per 25 Pairs
	DC Volts		
	Resistive Faults		
	Open Tests		
	Vacant Noise		
	Record all measurements		
Total Pairs Tested	825		

Efficiency – Rapid Pair Test

Work Period	**4**	**Hours**	
Time to move shoe	**5**	**Minutes**	
Rapid Pair Test	**0.4**	**Minutes**	**Per 25 Pairs**
	DC Volts		
	Open Tests		
	Record all measurements		
Total Pairs Tested	**1,100**		

Efficiency – Other Test Times

Test	Pair Type	Time (1 pr) Sec	Time (25 pr) Min	Prs/4 hours	Prs/ Hr
User (Spl ID, Loop Current, ANR, QT, mW)	POTS	35.00	14.58	**306**	77
User (vacant with loads)	Vacant	8.96	3.73	**687**	172
User (vacant w/ noise)	Vacant	5.28	2.20	**833**	208
Working	POTS	4.00	1.67	**900**	225
Vacant	Vacant	2.92	1.22	**965**	241
Rapid	Vacant	0.92	0.38	**1115**	279

Electronic Reports

ATV-25 Applications

- Pair Identification/Tagging
- Records Verification
- Automatic Number Retrieval
- Bulk Pair Recovery
- New Construction Verification
- Testing Conditioned Cable
- Preliminary Cable Fault Analysis
- Proof of Performance Verification
- End-to-End Pair Confirmation

ATV-25 Construction Test System